

Claims

I claim:

1. A method of editing data in a foreign format with a native system, comprising:
converting the data in the foreign format into a native format used by the native system;
editing the converted data with the native system; and
altering directly the data in the foreign format to reflect changes made to the converted data during editing.
2. The method according to claim 1, further comprising creating a list of changes made to the converted data during editing.
3. The method according to claim 2, wherein the altering step comprises making the changes in the list directly to the data in the foreign format.
4. The method according to claim 1, further comprising:
maintaining a first representation of the converted data in the native format before editing;
maintaining a second representation of the converted data in the native format after editing; and
comparing the first and second representations to determine the changes made to the converted data.
5. The method according to claim 1, further comprising converting only data in the foreign format that has a corresponding container in the native format.
6. The method according to claim 1, further comprising preserving data in the foreign format that cannot be represented in the native format.

7. The method according to claim 1, wherein the altering step is performed after editing is completed.
8. The method according to claim 1, wherein the changes included at least one of addition, deletion, or modification of the data.
9. The method according to claim 1, further comprising creating a representation of the converted data in memory only.
10. The method according to claim 1, further comprising deleting the converted data when editing is completed.
11. A method of editing data in a foreign format with a native system, comprising:
 - a) receiving a foreign file including first data in a foreign format;
 - b) converting the first data into second data in a native format;
 - c) tracking changes made to the second data; and
 - d) directly making the tracked changes to the first data in the foreign format.
12. The method according to claim 11, wherein the first and second data comprise a plurality of entities.
13. The method according to claim 12, further comprising creating a direct relationship between entities in the first data and corresponding entities in the second data.
14. The method according to claim 12, wherein each entity is associated with a key value.
15. The method according to claim 14, further comprising:
 - determining the key value for each entity in the first data; and

using the same key value as the first data to identify corresponding entities in the second data.

16. The method according to claim 15, wherein steps c) and d) comprise:
creating a list of the key values for entities in the second data that have been changed;
locating entities in the first data corresponding to the entities in the second data that have been changed based on the key value; and
making the tracked changes directly to the corresponding entities in the first data.
17. The method according to claim 11, further comprising:
maintaining a representation of each entity in the second data in the native format before editing;
maintaining a representation of each entity in the second data in the native format after editing; and
comparing the representations to determine changes made to the entities.
18. The method according to claim 11, wherein only entities that have been changed in the second data are changed in the first data.
19. The method according to claim 15, wherein the changes to the second data comprise at least one of deleting an entity, adding a new entity, changing an existing entity.
20. The method according to claim 19, wherein the change comprises deleting an entity and step d) comprises locating and deleting an entity with a corresponding key value in the foreign file and deleting it.
21. The method according to claim 19, wherein the change comprises adding a new entity and step d) comprises creating a representation of the new entity in the foreign

format, determining a key value for the new entity, and associating the representation with the new key value.

22. The method according to claim 11, wherein the second data in the native format is created in memory only.

23. The method according to claim 22, further comprising deleting the second data from memory after an editing session ends.

24. The method according to claim 11, further comprising:
determining a mapping between different entities in the first data; and
altering the mapping of the entities in the first data based on the changes.

25. A method for lossless manipulation of data between different formats, comprising:
receiving a first file containing data in a first format;
converting the data in the first file into a second format;
preserving data in the first file that cannot be represented in the second format;
changing the data while it is in the second format; and
producing a file in the first format including the preserved data and the changes to the data.

26. The method according to claim 25, wherein the file is produced by directly applying the changes made to the data while the data is in the second format to the first file.

27. The method according to claim 25, wherein the file is produced by converting the changed data in the second format into the first format and importing the preserved data into the converted, changed data.

28. A method for converting data between different formats, comprising:

providing data in a first format, the data including elements;
determining a first group of the elements that cannot be represented in a second format and a second group of elements that can be represented in the second format;
converting the second group of elements into the second format; and
preserving the first group of elements.

29. The method according to claim 28, further comprising editing the data while it is in the second format.

30. The method according to claim 29, further comprising tracking changes made to the data while editing.

31. The method according to claim 30, further comprising altering directly the data in the first format to reflect the tracked changes, wherein the data in the first format after altering includes the preserved first group of elements.

32. A computer useable information storage medium storing computer readable program code means for causing a computer to perform the steps of:

- a) receiving a first file containing first data in a first format;
- b) converting the first data into second data in a second format;
- c) changing the second data;
- d) tracking changes made to the second data; and
- e) directly altering the first data to reflect the tracked changes to the second

data.

33. The computer useable information storage medium according to claim 32, wherein the first and second data comprise a plurality of entities.

34. The computer useable information storage medium according to claim 33, wherein the steps further comprise creating a direct relationship between entities in the first data and corresponding entities in the second data.

35. The computer useable information storage medium according to claim 33, wherein each entity is associated with a key value.

36. The computer useable information storage medium according to claim 35, wherein the steps further comprise:

determining the key value for each entity in the first data; and

using the same key value as the first data to identify corresponding entities in the second data.

37. The computer useable information storage medium according to claim 32, wherein steps d) and e) comprises:

creating a list of the key values for entities in the second data changed during editing;

locating the corresponding entity in the first data based on the key value; and

making the change directly to the corresponding entity in the first data.

38. The computer useable information storage medium according to claim 32, wherein the steps further comprise:

maintaining a representation of each entity in the second data in the native format before editing;

maintaining a representation of each entity in the second data in the native format after editing; and

comparing the representations to determine changes made to the entities.

39. The computer useable information storage medium according to claim 32, wherein the steps further comprise creating a representation in the native format in memory only.

40. The computer useable information storage medium according to claim 39, wherein the steps further comprise deleting the representation after an editing session ends.

41. The computer useable information storage medium according to claim 32, wherein the steps further comprise:

determining a relationship between entities in the first data;

determining a mapping between the entities in the first data; and

altering the mapping of the entities in the first data based on the editing session, if necessary.

42. The computer useable information storage medium according to claim 32, wherein the steps further comprise preserving in the first file first data that is not converted into the second data.